BANG & OLUFSEN
DK – 7600 STRUER
DENMARK

TELEPHONE 07 – 85 11 22* – TELEX 66529
CABLE ADDRESS: BANGOLUF

3538422

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Bang&Olufsen

BEOCORD 1500
TYPE 2642

BEOCORD 1900
TYPE 2643

Ryland Huntley
15 OLD BOND STREET, BATH. Tel. 4332
RADIO & TELEVISION

SERVICE MANUAL

INTRODUCTION

The Beocord 1500, type 2642 and Beocord 1900, type 2643 are identical circuitwise but differ mechanically on a few points: Tape head, VU meter, and damped eject.
In the mechanical parts list such parts as are different in the two types are marked with set and type No.

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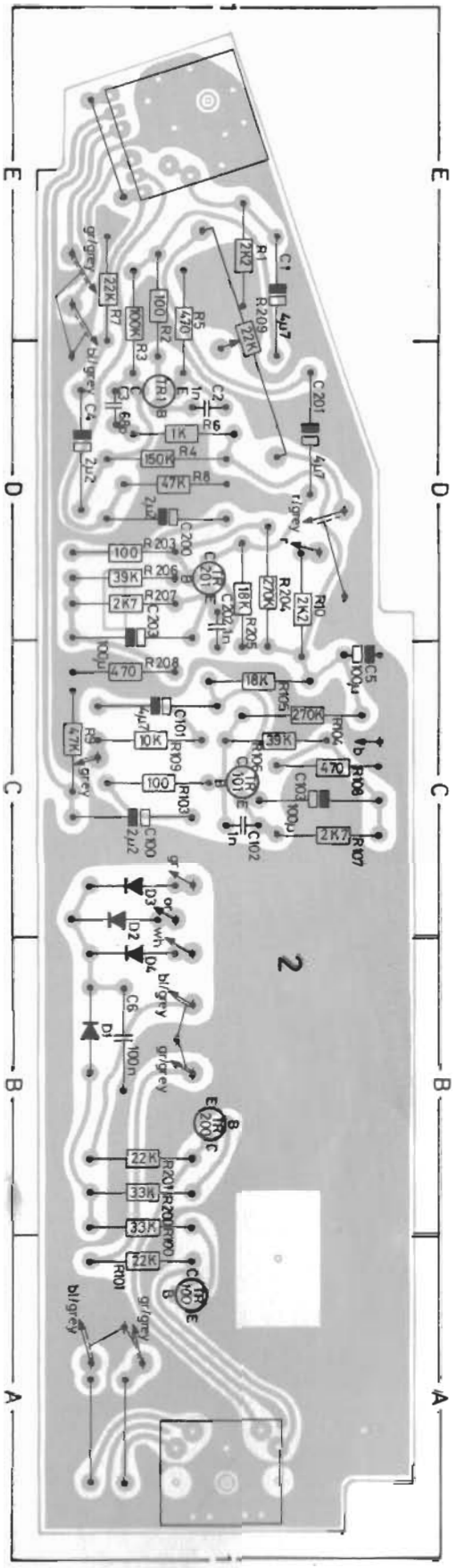
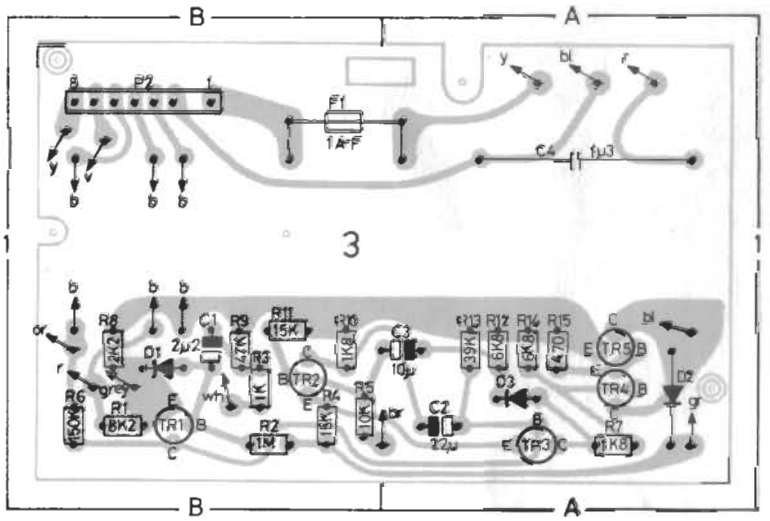
Input section, 8004178, PC2

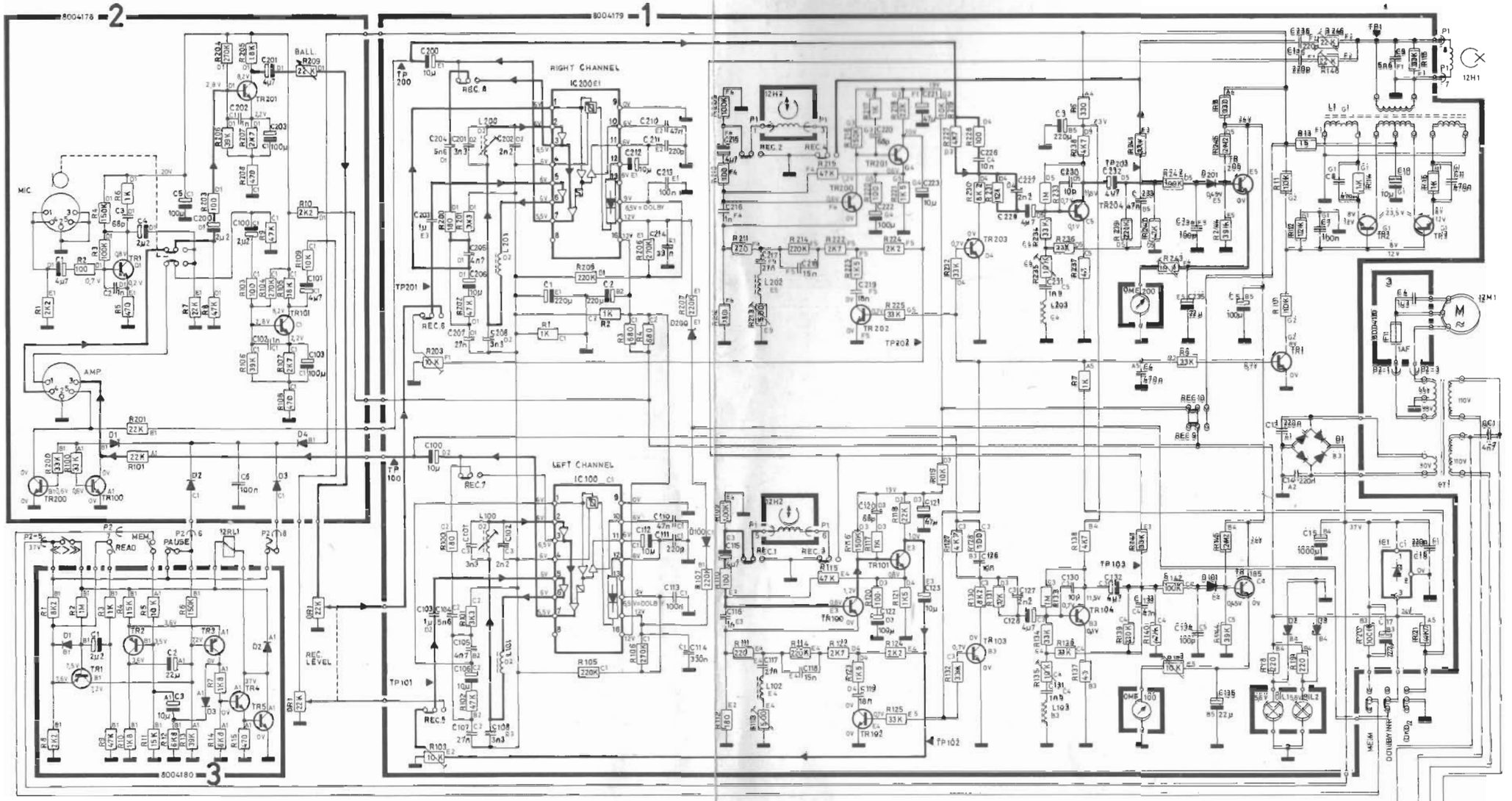


Autostop, 8004180, PC3



PC Drawings are seen from copperfoil side

LEDNINGSFARVER COLOUR OF WIRES			KABELFARBEN COULEURS DES FILS	
b	black	schwartz	sort	noir
bl	blue	blau	blå	bleu
br	brown	braun	brun	brun
gr	green	grün	grøn	grøn
vert				
grey	grey	grau	grå	gris
or	orange	orange	orange	orange
r	red	rot	rød	rouge
v	violet	violett	violet	violet
wh	white	weiss	hvid	blanc
y	yellow	gelb	gul	gaune



Målepunkter DC

Spændingerne på 1IC100 og 1IC200 er målt med Dolby-knappen indtrykket.
Spændingerne på 1TR1 - 1TR102/202 og 1TR103/203 er målt med CrO_2 knap ude.
Spændingerne på 1TR100/200 og 1TR101/201 er målt i stilling gengive.
Spændingerne på 1TR2 - 1TR3 -1TR104/204 - 1TR105/205 - 2TR1 - 2TR100/200 og 2TR101/201 er målt i stilling optage med CrO_2 knap ude.

AC

Gengive fra pegelbånd:

TP100 - TP200	720 mV
TP101 - TP201	35 mV
TP102 - TP202	50 mV

CrO_2-knappen indtrykket og optageknappen i max.

Optage:

TP1	40 V 98 kHz
AMP-indgang	2 mv
TP100 - TP200	580 mV
TP101 - TP201	35 mV
TP103 - TP203	2 V

Mikrofon

Mikrofon indgang	175 µV

Test points DC

The voltages on 1IC100 and 1IC200 have been measured with depressed Dolby-button.
The voltages on 1TR1 - 1TR102/202 and 1TR103/203 have been measured with CrO_2 button undepressed.
The voltages on 1TR100/200 and 1TR101/201 have been measured in playback position.
The voltages on 1TR2 - 1TR3 - 1TR104/204 - 1TR105/205 - 2TR1 - 2TR100/200 og 2TR101/201 have been measured in record position with CrO_2 button undepressed.

AC

Playing back from level tape:

TP100 - TP200	720 mV
TP101 - TP201	35 mV
TP102 - TP202	50 mV

CrO_2-button depressed and recording button in max.

Recording:

TP1	40 V 98 kHz
AMP input	2 mV
TP100 - TP200	580 mV
TP101 - TP201	35 mV
TP103 - TP203	2 V

Microphone

Microphone input	175 µV

Testpunkte DC

Die Spannungen auf 1IC100 und 1IC200 sind mit dem Dolby-Knopf eingedrückt gemessen.
Die Spannungen auf 1TR1 - 1TR102/202 und 1TR103/203 sind mit nicht eingedrücktem CrO_2 Knopf gemessen.
Die Spannungen auf 1TR100/200 und 1TR101/201 sind in Position Wiedergabe gemessen.
Die Spannungen auf 1TR2 - 1TR3 - 1TR104/204 - 1TR105/205 - 2TR1 - 2TR100/200 und 2TR101/201 sind in Position Aufnahme, mit nicht eingedrücktem CrO_2 Knopf gemessen.

AC

Von Pegelband wiedergeben:

TP100 - TP200	720 mV
TP101 - TP201	35 mV
TP102 - TP202	50 mV

CrO_2 Knopf eingedrückt und Aufnahme Knopf in max.

Aufnehmen:

TP1	40 V 98 kHz
AMP-eingang	2 mV
TP100 - TP200	580 mV
TP101 - TP201	35 mV
TP103 - TP203	2 V

Mikrophon

Mikrophoneingang	175 µV

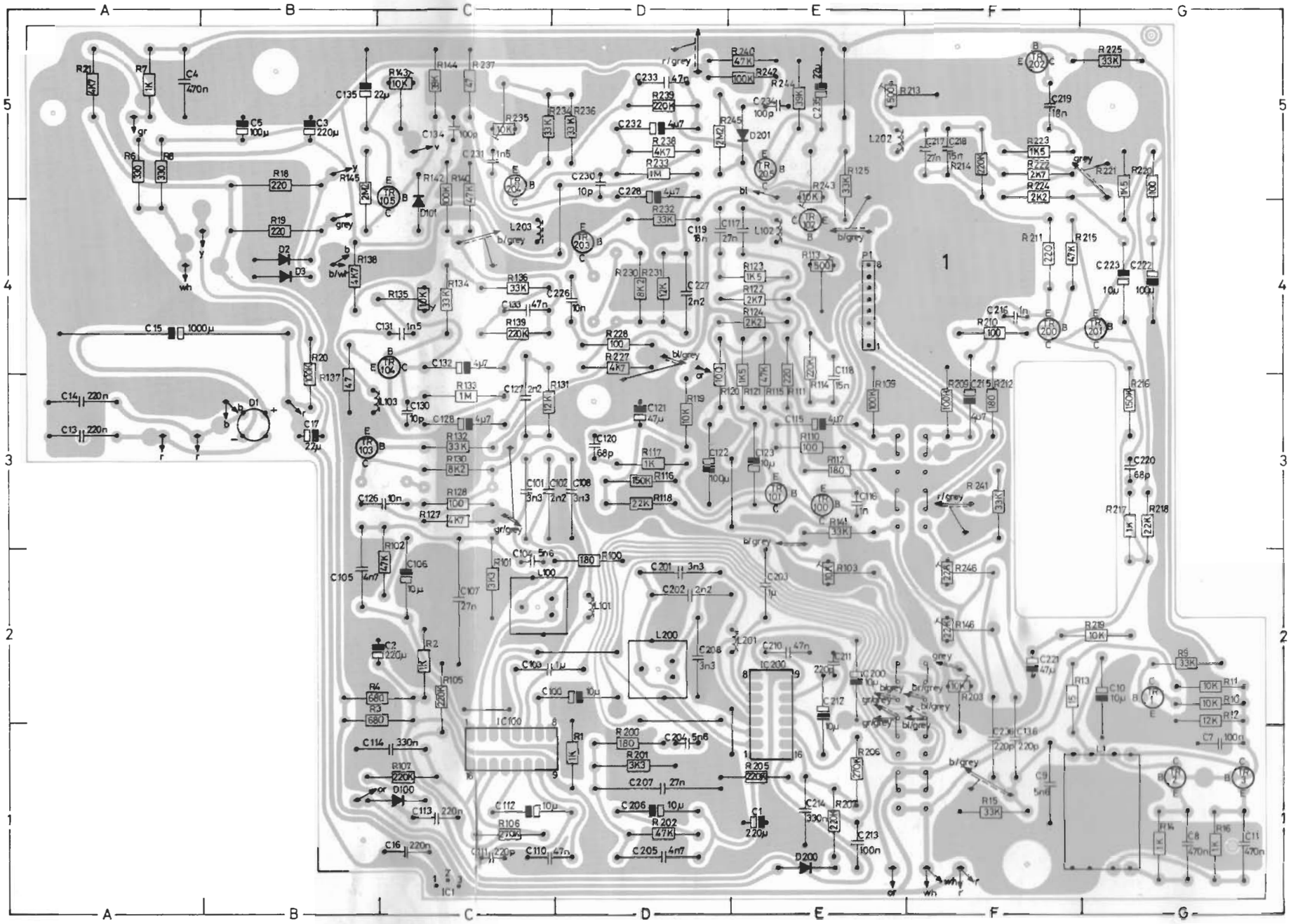
Signalvejen i optage position er vist i højre kanal, og gengive position er vist i venstre kanal.

The signal path in recording pos. is shown in right channel, and replay position is shown in left channel.

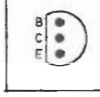
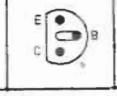
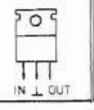
Der Signalweg in Aufnahmeposition ist in rechten Kanal gezeigt, und die Wiedergabeposition ist in linken Kanal gezeigt.

PC Drawings are seen from copperfoil side

Amplifier, 8004179, PC1



TRANSISTOR AND IC LIST

17	18	19	20	32	101	105	
							

1TR1	8320097	**20**	BC 547 B
		20	BC 182 B/BK
		17	BC 182 BL
		20	BC 237 B
1TR2	8320137	**20**	BC 182 B/BK
1TR3		**17**	BC 182 BL
1TR100	8320344	**20**	BC 550 B
1TR200		**20**	BC 384 B-N
1TR101	8320095	**20**	BC 549 B
1TR201		**20**	BC 184 B-N
1TR102	8320097	**20**	BC 547 B
1TR202		**20**	BC 182 B/BK
1TR103		**17**	BC 182 BL
1TR203		**20**	BC 237 B
1TR104	8320095	**20**	BC 549 B
1TR204		**20**	BC 184 B-N
1TR105	8320285	**20**	BC 548 B
1TR205		**20**	BC 183 C/CK
		17	BC 183 CL

1IC1	8340126	**105**	µA 78M24CU
1IC100	8340136	**101**	NE 645 BN
1IC200			
2TR1	8320344	**20**	BC 550 B
		20	BC 384 B-N
2TR100	8320097	**20**	BC 547 B
2TR200		**20**	BC 182 B/BK
		17	BC 182 BL
		20	BC 237 B
2TR101	8320095	**20**	BC 549 B
2TR201		**20**	BC 184 B-N
3TR1	8320152	**20**	BC 557 B
3TR2		**20**	BC 212 B/BK
3TR3		**17**	BC 212 BL
		18	BC 307 B
		20	BC 251 B
3TR4	8320323	**19**	MPS A05
3TR5	8320292	**32**	BD 137/W

209	215	217					

DIODE LIST

1D1	8300155		B40C800 KB10
			B80C800
1D2	8300296	**209**	ZPD 5.6 V 2%
1D3		**209**	BZX 83B 5V6 2%
		209	BZX 79B5V6
1D100	8300058	**217**	SFD 184
1D200		**215**	1N 4148
1D101		**209**	1N 4148
1D201			
2D1	8300028	**209**	ZPD 9.1V 5%
		209	BZX 79C9V1
		209	BZX 83C9V1

2D2	8300058	**217**	SFD 184
2D3		**215**	1N 4148
2D4		**209**	1N 4148
3D1	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
3D2	8300023	**209**	1N 4002/RL
		209	1N 4003
3D3	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148

ELECTRICAL PARTS LIST

0R1	5310075	2 × 22 kohms	0C1	4020004	4,7 nF −20 + 50%
0F1	6600025	125mA-T/250V IEC127	0IL1	8230064	6V 80 mA
0F2	6600000	250mA-T/250V IEC127	0IL2	8230064	6V 80 mA

Amplifier, 8004179, PC1

R1	5001029	1 kohms ± 10% 1/2 W	R115	5010045	47 kohms ± 5% 1/8 W
R2	5001029	1 kohms ± 10% 1/2 W	R116	5010063	150 kohms ± 5% 1/8 W
R3	5001026	680 ohms ± 10% 1/2 W	R117	5010040	1 kohms ± 5% 1/8 W
R4	5001026	680 ohms ± 10% 1/2 W	R118	5010079	22 kohms ± 5% 1/8 W
R6	5001021	330 ohms ± 10% 1/2 W	R119	5001042	10 kohms ± 10 % 1/2 W
R7	5001029	1 kohms ± 10% 1/2 W	R120	5010065	100 ohms ± 5% 1/8 W
R8	5001021	330 ohms ± 10% 1/2 W	R121	5010247	1,5 kohms ± 5% 1/8 W
R9	5010075	33 kohms ± 5% 1/8 W	R122	5010298	2,7 kohms ± 5% 1/8 W
R10	5010059	10 kohms ± 5% 1/8 W	R123	5010247	1,5 kohms ± 5% 1/8 W
R11	5010059	10 kohms ± 5% 1/8 W	R124	5010064	2,2 kohms ± 5% 1/8 W
R12	5010046	12 kohms ± 5% 1/8 W	R125	5010075	33 kohms ± 5% 1/8 W
R13	5020121	15 ohms ± 5% 1/8 W	R127	5010048	4,7 kohms ± 5% 1/8 W
R14	5001029	1 kohms ± 10% 1/2 W	R128	5010065	100 ohms ± 5% 1/8 W
R15	5010075	33 kohms ± 5% 1/8 W	R130	5010154	8,2 kohms ± 5% 1/8 W
R16	5001029	1 kohms ± 10% 1/2 W	R131	5010046	12 kohms ± 5% 1/8 W
R18	5100258	220 ohms ± 10% 4 W	R132	5010075	33 kohms ± 5% 1/8 W
R19	5100258	220 ohms ± 10% 4 W	R133	5011069	1 Mohms ± 5% 1/4 W
R20	5001055	100 kohms ± 10% 1/2 W	R134	5010075	33 kohms ± 5% 1/8 W
R21	5001038	4,7 kohms ± 10% 1/2 W	R135	5370152	10 kohms ± 20% 0,1 W
R100	5010362	180 ohms ± 5% 1/8 W	R136	5010075	33 kohms ± 5% 1/8 W
R101	5010265	3,3 kohms ± 2% 1/4 W	R137	5010411	47 ohms ± 5% 1/8 W
R102	5010045	47 kohms ± 5% 1/8 W	R138	5010048	4,7 kohms ± 5% 1/8 W
R103	5370152	10 kohms ± 20% 0,1 W	R139	5010120	220kohms ± 5% 1/8 W
R105	5010120	220 kohms ± 5% 1/8 W	R140	5010045	47 kohms ± 5% 1/8 W
R106	5010083	270 kohms ± 5% 1/8 W	R141	5010075	33 kohms ± 5% 1/8 W
R107	5010120	220 kohms ± 5% 1/8 W	R142	5010049	100 kohms ± 5% 1/8 W
R109	5010049	100 kohms ± 5% 1/8 W	R143	5370152	10 kohms ± 20% 0,1 W
R110	5010065	100 ohms ± 5% 1/8 W	R144	5010060	39 kohms ± 5% 1/8 W
R111	5010092	220 ohms ± 5% 1/8 W	R145	5011074	2,2 Mohms ± 10% 1/4 W
R112	5010362	180 ohms ± 5% 1/8 W	R146	5370153	22 kohms ± 20% 0,1 W
R113	5370150	500 ohms ± 20% 0,1 W			
R114	5010120	220 kohms ± 5% 1/8 W			

C1	4200097	220 µF 16 V	C111	4010021	220 pF ±10% 100 V
C2	4200097	220 µF 16 V	C112	4200342	10 µF −10 + 50% 63 V
C3	4200299	220 µF 40 V	C113	4130103	100 nF ± 20% 250 V
C4	4130114	470 nF ± 10% 100 V	C114	4130106	330 nF ± 20% 100 V
C5	4201060	100 µF 40 V	C115	4200322	4,7 F 63 V
C7	4130103	100 nF ± 20% 250 V	C116	4010027	1 nF ± 10% 100 V
C8	4130114	470 nF ± 10% 100 V	C117	4130094	27 nF ± 10% 250 V
C9	4100049	5,6 nF ± 1% 63 V	C118	4130097	15 nF ± 10% 250 V
C10	4200342	10 µF −10 + 50% 63 V	C119	4130143	18 nF ± 10% 250 V
C11	4130114	470 nF ± 10% 100 V	C120	4000019	68 pF ± 5% 63 V
C13	4130082	220 nF ± 20% 250 V	C121	4201074	47 µF 40 V
C14	4130082	220 nF ± 20% 250 V	C122	4200378	100 µF 4 V
C15	4200277	1000 µF 63 V	C123	4200342	10 µF −10 + 50% 63 V
C16	4130082	220 nF ± 20% 250 V	C126	4130109	10 nF ± 10% 250 V
C17	4200100	22µF 40 V	C127	4100029	2,2 nF ± 5% 63 V
C100	4200342	10 µF −10 + 50% 63 V	C128	4200322	4,7 µF 63 V
C101	4100033	3,3 nF 5% 63 V	C130	4000016	10 pF ±2% 63 V
C102	4100029	2,2 nF ± 5% 63 V	C131	4010067	1,5 nF ± 10% 63 V
C103	4130136	1 µF ± 20% 100 V	C132	4200322	4,7 µF 63 V
C104	4100049	5,6 nF ± 1% 63 V	C133	4130087	47 nF ± 10% 250 V
C105	4100031	4,7 nF ± 1% 63 V	C134	4000069	100 pF ± 5% 63 V
C106	4200342	10 µF −10 + 50% 63 V	C135	4200016	22 µF 25 V
C107	4100048	27 nF ± 1% 63 V	C136	4102024	220 pF ± 5% 160 V
C108	4100033	3,3 nF ± 5% 63 V			
C110	4130087	47 nF ± 10% 250 V			

L1	8020267	100 kHz	P1	7220116	Plug 8/7 pins
L100	8022067	22 mH		7400166	Switch with spring
L101	8022068	3,6 mH		7400182	Switch
L102	8022090	3,5 mH		3304050	Screen can
L103	8022089	15 mH			

Input section, 8004178, PC2

R1	5010064	2,2 kohms ± 5% 1/8 W	R101	5010079	22 kohms ± 5% 1/8 W
R2	5010065	100 ohms ± 5% 1/8 W	R103	5010065	100 ohms ± 5% 1/8 W
R3	5010048	100 kohms ± 5% 1/8 W	R104	5011062	270 kohms ± 5% 1/4 W
R4	5011059	150 kohms ± 5% 1/8 W	R105	5010135	18 kohms ± 5% 1/8 W
R5	5010058	470 ohms ± 5% 1/8 W	R106	5010060	39 kohms ± 5% 1/8 W
R6	5010040	1 kohms ± 5% 1/8 W	R107	5010298	2,7 kohms ± 5% 1/8 W
R7	5010079	22 kohms ± 5% 1/8 W	R108	5010058	470 ohms ± 5% 1/8 W
R8	5010045	47 kohms ± 5% 1/8 W	R109	5010059	10 kohms ± 5% 1/8 W
R9	5010043	47 kohm	R269	5300101	22 kohms LIN BAL
R10	5001034	3,3 kohms ± 10% 1/2 W			
R100	5010075	33 kohms ± 5% 1/8 W			

C1	4200322	4,7 µF 63 V	C6	4130091	100 nF ± 10% 250 V
C2	4010027	1 nF ± 10% 100 V	C100	4201035	2,2 µF 63 V
C3	4000019	68 pF ± 5% 63 V	C101	4200322	4,7 µF 63 V
C4	4201035	2,2 µF 63 V	C102	4010027	1 nF ± 10% 100 V
C5	4201060	100 µF 40 V	C103	4200378	100 µF 4 V

	7210033	Socket AMP.
	7210156	Socket MIC.
	6140637	PC. Balance

Autostop, 8004180, PC3

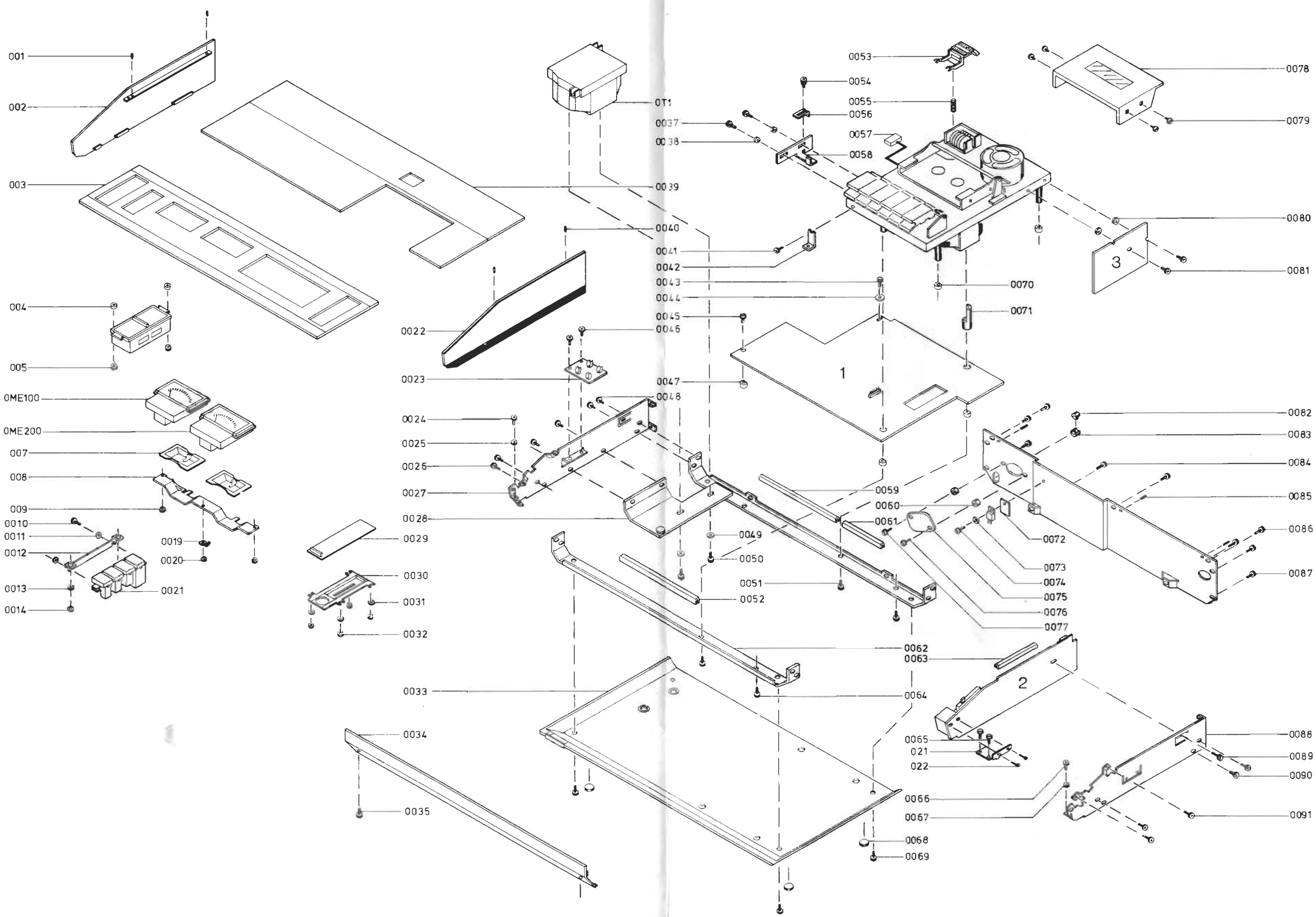
R1	5001041	8,2 kohms ± 10% 1/2 W	R9	5610045	47 kohms ± 5% 1/8 W
R2	5010054	1 Mohms ± 5% 1/8 W	R10	5010066	1,8 kohms ± 5% 1/8 W
R3	5001029	1 kohms ± 10% 1/2 W	R11	5010053	15 kohms ± 5% 1/8 W
R4	5010053	15 kohms ± 5% 1/8 W	R12	5010052	6,8 kohms ± 5% 1/8 W
R5	5010056	10 kohms ± 5% 1/8 W	R13	5010060	39 kohms ± 5% 1/8 W
R6	5010063	150 kohms ± 5% 1/8 W	R14	5010052	6,8 kohms ± 5% 1/8 W
R7	5010066	1,8 kohms ± 5% 1/8 W	R15	5001024	470 ohms ± 10% 1/2 W
R8	5001034	2,2 kohms ± 10% 1/2 W			

C1	4201035	2,2 µF ± 20% 35 V	C3	4201065	10 µF 63 V
C2	4200100	22 µF 40 V	C4	4130090	1,3 µF ± 10% 170 V

F1	6604025	1A-F/250 V IEC 127
P2	7220116	Plug 8/7 pins
	7500002	Fuse holder

MECHANICAL PARTS LIST

001	2072707	Threaded pin M3 × 6, DIN916
002	3412671	Cabinet, teak, 3 parts
	3412673	Cabinet, rosewood, 3 parts
	3412674	Cabinet, oak, 3 parts
003	2568491	Front profile for BE1500 type 2642
	2568490	Front profile for BE1900 type 2643
004	2950022	Distance tube
005	2380011	Nut
0ME100	8450028	VU-meter for BE1500 type 2642
	8450029	VU-meter for BE1900 type 2643
0ME200	8450028	VU-meter for BE1500 type 2642
	8450029	VU-meter for BE1900 2643
007	3302289	Screen for BE1500 type 2642
	3302292	Screen for BE1900 type 2643
008	2515031	Clamp for VU-meter BE 1500 type 2642
009	2380011	Nut
0010	2013091	Screw 2.9 × 6.5 DIN7981, black
0011	2622013	Washer
0012	2530346	Bracket
0013	2622041	Washer
0014	2380011	Nut
0019	2548001	Wire holder for BE1500 type 2642
0020	2380011	Nut
0021	7400178	Pushbutton unit with buttons
0022	3412671	Cabinet, teak, 3 parts
	3412673	Cabinet, rosewood, 3 parts
	3412674	Cabinet, oak, 3 parts
0023	7200042	Protection PC complete
0024	2013091	Screw 2.9 × 6.5 DIN7981, black
0025	2622041	Washer
0026	2039026	Screw AM 3 × 4 DIN7985, black
0027	3470089	Side piece, left
0028	3112136	Chassis bracket
0029	3164314	Lid, Mic
0030	3302297	Screen, Mic
0031	2622041	Washer
0032	2380011	Nut
0033	3454255	Bottom with feet
0034	3412671	Cabinet, teak, 3 parts
	3412673	Cabinet, rosewood, 3 parts
	3412674	Cabinet, oak, 3 parts
0035	2013090	Screw 2.9 × 6.5 DIN7982, black
0T1	8013184	Transformer
0037	2038066	Screw M3 × 1.8 DIN923
0038	2622265	Washer
0039	2568544	Top plate
0040	2070701	Threaded pin M3 × 6 DIN916
0041	2039008	Screw AM3 × 6 DIN7985
0042	2530138	Bracket
0043	2038216	Screw AM3 × 10 DIN84
0044	2622283	Fibre washer
0045	2038216	Screw AM3 × 10 DIN84
0046	2013091	Screw 2.9 × 6.5 DIN7981 black
0047	2576057	Spacer
0048	2039022	Screw AM3 × 4 DIN965
0049	2622024	Washer
0050	2015201	Screw M3.5 × 9.5 DIN7981
0051	2043011	Screw AM4 × 8 DIN7985
0052	3950296	Plastic profile
0053	3322052	Button for counter
0054	2038069	Screw AM3 × 4 with washer
0055	2812081	Spring
0056	2542468	Bracket
0057	6275325	Wire bundle with socket
0058	2542473	Bracket
0059	3950296	Plastic profile
0060	2938143	Spacer, black
0061	3950295	Plastic profile
0062	3112140	Chassis bracket
0063	3950295	Plastic profile
0064	2043011	Screw AM4 × 8 DIN7985
0065	2039026	Screw AM3 × 4 DIN84, black
0066	2013091	Screw 2.9 × 6.5 DIN7981, black
0067	2622041	Washer
0068	3103083	Foot
0069	2039027	Screw AM3 × 6 DIN7985, black
0070	2576057	Spacer
0071	2576042	Spacer
0072	2622248	Mica Sheet TO-220
0073	2938140	Washer
0074	2039026	Screw AM3 × 4 DIN7985
0075	7400022	Mains-voltage switch
0076	2039028	Screw AM3 × 8 DIN7985
0077	2038249	Screw AM3 × 8 DIN84, nylon
0078	3164333	Cover
0079	2034042	Screw, black
0080	2938034	Spacer
0081	2013213	Screw 2.9 × 9,5 DIN7981 black
0082	2641062	Locking plate
0083	2641061	Bushing
0084	2039028	Screw AM3 × 8 DIN7985 black
0085	2072707	Threaded pin M3 × 6 DIN916 black
0086	2039027	Screw AM3 × 6 DIN7985, black
0087	2039028	Screw AM3 × 8 DIN7985, black
0088	3470090	Side piece
0089	2038216	Screw AM3 × 10 DIND84
0090	2039022	Screw AM3 × 4 DIN965
0091	2039026	Screw AM3 × 4 DIN7985, black
021	2542488	Bracket
022	2011005	Screw 2.2 × 9.5 DIN7981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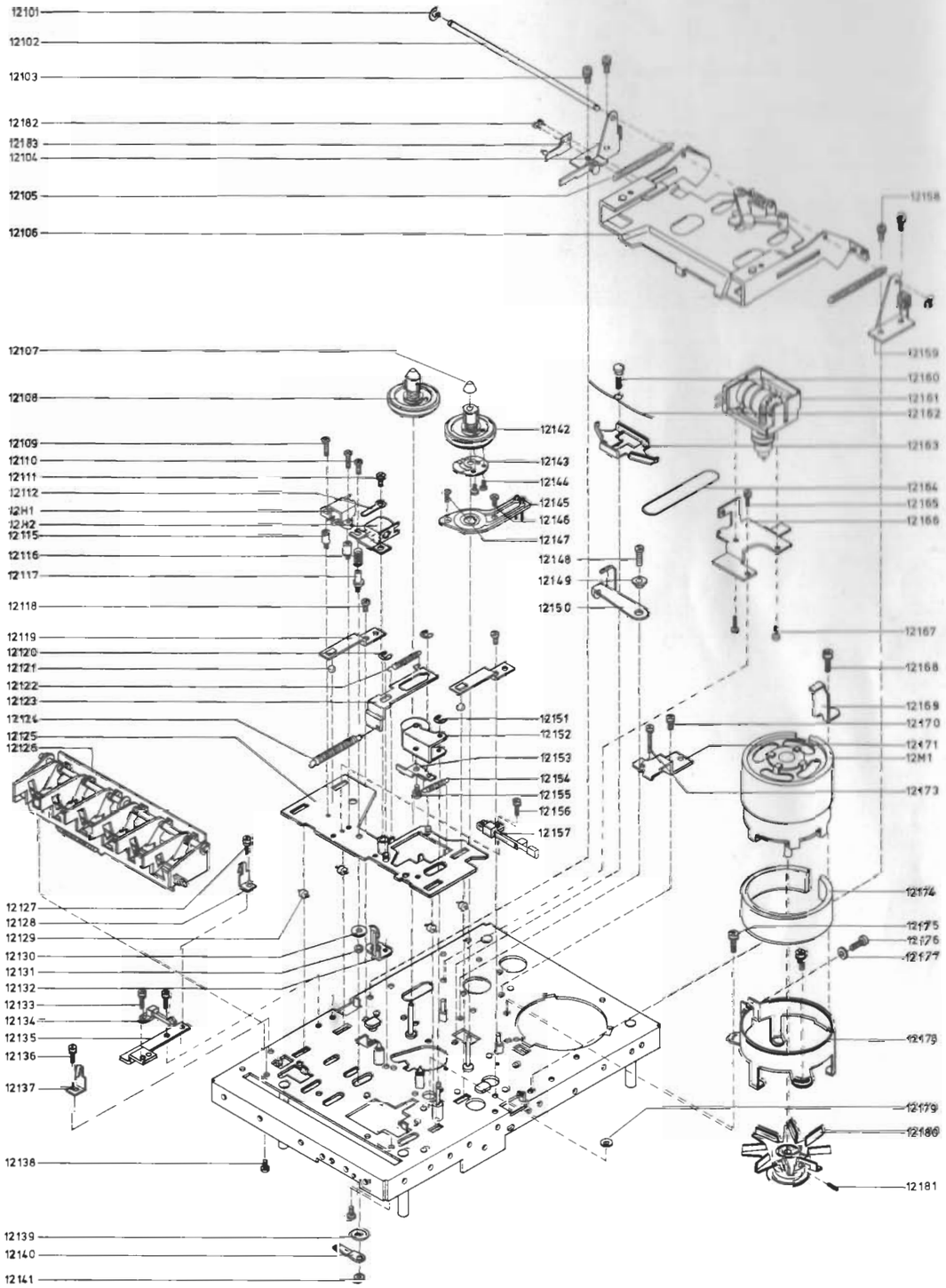
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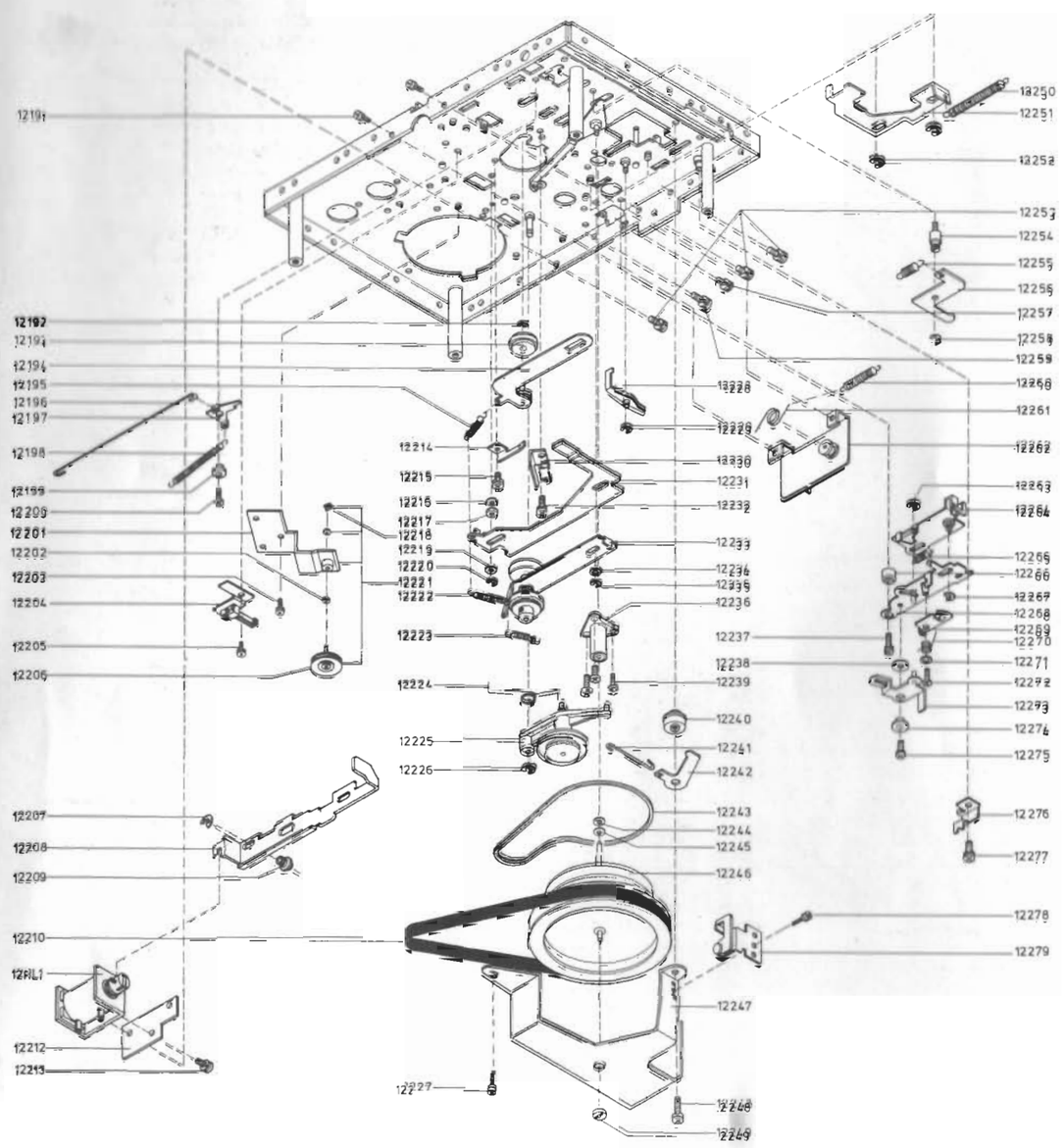
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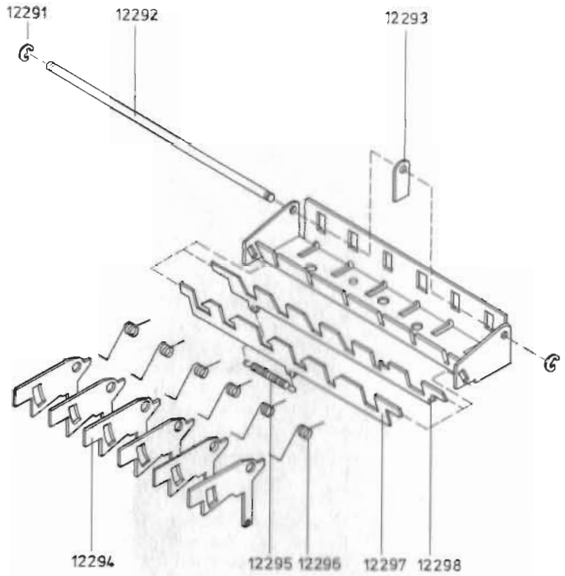
12101	2390073	E-Ring 2.5 ø
12102	2831018	Shaft
12103	2036008	Screw AM2.6 × 5 with washer
12104	2542482	Bracket
	3010009	Stop (rubber)
12105	2818025	Spring, BE1500 type 2642
	2818057	Spring, BE1900 type 2643
12106	3151159	Cassette holder complete
	2818053	Spring for eject
	2854063	Arm right (eject)
	2854064	Arm left (eject)
	2390073	E-Ring 2.5 ø
	2992075	Brass tap
12107	3164143	Cover
12108	2726120	Turntable
12109	2034239	Screw AM2 × 12
12110	2034207	Screw AM2 × 5
12111	2034036	Screw AM2 × 4 with washer
12112	7530076	Solder tag
12H1	8600039	Erase head
12H2	8600038	Tapehead BE1500 type 2642
	8600053	Tapehead BE1900 type 2643
12115	2576052	Spacer
12116	2818024	Spring
12117	2576053	Spacer
12118	2036012	Screw AM2.6 × 3
12119	2542363	Bracket
12120	2390073	E-Ring 2.5 ø
12121	2917012	Ball ø3
12122	2818042	Spring
12123	2542426	Bracket
12124	2818048	Spring
12125	3112226	Tapehead chassis
12126	7410010	Pushbutton unit
	2775628	Pushbutton <<
	2775627	Pushbutton >>
	2775626	Pushbutton >
	2775625	Pushbutton eject/stop
	2775629	Pushbutton record
	2775624	Pushbutton pause
12127	2036008	Screw AM2.6 × 5 with washer
12128	2548001	Wire holder
12129	2794037	Roller
12130	2622196	Washer
12131	2389034	Special nut
12132	2850086	Arm
12133	2036008	Screw AM2.6 × 5 with washer
12134	7400138	Switch
12135	2542485	Bracket
12136	2038063	Screw AM3 × 5 with washer
12137	2548001	Wire holder
12138	2036008	Screw AM2.6 × 5 with washer
12139	2611156	Washer
12140	2854029	Arm
12141	2380113	Nut
12142	2726120	Turntable
12143	2819127	Contact spring
12144	2033008	Screw AM1.7 × 3
12145	6140533	Print contact
12146	2034033	Screw AM2 × 3
12147	2034033	Screw AM2 × 3
12148	2036203	Screw AM2.6 × 4
12149	2932055	Bushing
12150	2548130	Bracket
12151	2390073	E-Ring 2.5 ø
12152	2804036	Pressure wheel
12153	2530332	Bracket
12154	2818043	Spring
12155	2034236	Screw AM2 × 3
12156	2036009	Screw AM2.6 × 6 with washer
12157	7510027	Pause contact
12158	2036008	Screw AM2.5 × 5 with washer
12159	2542483	Bracket
	3010009	Stop (rubber)
12160	2831029	Shaft
12161	3370126	Counter
12162	2819124	Spring
12163	2542432	Bracket, brake
12164	2732046	Belt
12165	2036008	Screw AM2.6 × 5 with washer
12166	2542500	Bracket
12167	2038952	Screw AM3 × 4
12168	2038063	Screw 3 × 5 with washer
12169	2542486	Bracket
12170	2036008	Screw AM2.6 × 5 with washer
12171	2542484	Bracket
12M1	8400047	Motor
12173	2036014	Screw AM2.6 × 15
12174	3170117	Insulation for motor
12175	2038063	Screw AM3 × 5 with washer
12176	2039908	Screw AM3 × 10
12177	2622013	Washer ø3
12178	3151160	Holder for motor
12179	2624040	Washer
12180	8410007	Fan
12181	2070702	Threaded pin
12182	2034036	Screw AM2 × 4 with washer
12183	2542507	Bracket

12191	2038063	Screw AM3 × 5 with washer
12192	2390056	E-Ring 1.5 ø
12193	2804029	Idler wheel
12194	2853049	Arm for idler wheel
12195	2818045	Spring
12196	2850056	Arm
12197	2542356	Bracket
12198	2818052	Spring
12199	2932055	Bushing
12120	2036008	Screw AM2.6 × 5 with washer
12201	2542501	Bracket
12202	2624039	Washer
12203	2038063	Screw AM3 × 5 with washer
12204	7510026	Bracket with switch
12205	2036009	Screw AM2.6 × 6 with washer
12206	2724057	Pulley
12207	2390072	E-Ring 3ø
12208	2542431	Bracket
12209	2932077	Bushing
12210	2732042	Drive belt
12RL1	6840217	Magnet coil
	2818050	Spring
12212	3151148	Holder for magnet coil
12213	2038069	Screw AM3 × 4 with washer
12214	2816097	Guide plate, spring
12215	2036012	Screw AM2.6 × 3
12216	2624036	Spring washer M2.6
12217	2380113	Nut M2.6
12218	2390056	Locking ring
12219	2624041	Washer, plastic
12220	2390056	E-Ring 1.5ø
12221	2542502	Bracket with pulley
12222	2818028	Spring
12223	2818044	Spring
12224	2819142	Spring
12225	2854050	Coupling complete
12226	2390073	E-Ring 2.5ø
12227	2038063	Screw AM3 × 5 with washer
12228	2854048	Pause arm
12229	2390056	E-Ring 1.5ø
12230	3015038	Guide plate
12231	2854026	Arm
12232	2036008	Screw AM2.6 × 5 with washer
12233	2853048	Arm complete
12234	2641041	Washer, plastic
12235	2390056	E-Ring
12236	2905069	Capstan shaft
12237	2036010	Screw AM2.6 × 8 with washer
12238	2622257	Washer ø4
12239	2036903	Screw AM2.6 × 5
12240	2932078	Bushing
12241	2850085	Arm
12242	2530333	Bracket
12243	2732044	Belt
12244	2622253	Washer
12245	2622253	Washer
12246	2794073	Flywheel
12247	2548149	Bracket for flywheel
12248	2036007	Screw Arn2.6 × 4 with washer
12249	2905072	Bottom bearing
12250	2818047	Spring
12251	2854028	Arm
12252	2390072	E-Ring 3ø
12253	2038063	Screw AM3 × 5 with washer
12254	2834058	Shaft for arm
12255	2818046	Spring
12256	2851066	Arm
12257	2036009	Screw AM2.6 × 6 with washer
12258	2390073	E-Ring 2.5ø
12259	2038063	Screw AM3× 5 with washer
12260	2818058	Spring
12261	3955019	Cord
12262	2542505	Bracket, damper system complete
12263	2390073	E-Ring 2.5ø
12264	2853051	Arm
12265	2818049	Spring
12266	2932079	Bushing
12267	2390073	E-Ring 2.5ø
12268	2542428	Bracket
12269	2854051	Pause arm
12270	2819126	Spring
12271	2622254	Washer M2
12272	2034036	Screw AM2 × 6 with washer
12273	2854049	Arm
12274	2932080	Bushing
12275	2034037	Screw AM2 × 6 with washer
12276	2542480	Bracket
12277	2036007	Screw AM2.6 × 4 with washer
12278	2038063	Screw AM3 × 5 with washer
12279	2542479	Bracket

Only Beocord 1900, Type 2643



12291	2390002	E-Ring 3.2ø	12295	2819129	Spring
12292	2831030	Shaft	12296	2819130	Spring
12293	3151150	Holder	12297	2853052	Slide arm
12294	2853054	Arm	12298	2853053	Slide arm

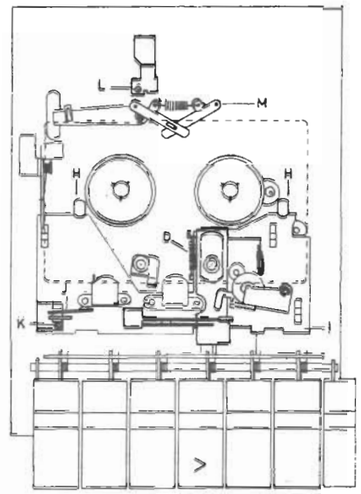
PARTS NOT SHOWN

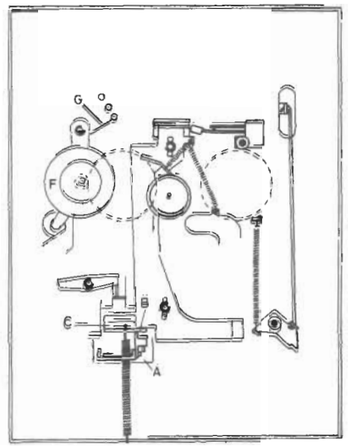
3532135	Diagram
3391516	Outer carton
3397300	Foam packing, front
3397301	Foam packing, rear
6271101	Mains lead with euro plug
6780041	Service cassette kit
6270202	Wire kit for repair
6275380	Wire bundle for automatic stop
6275378	Wire bundle for Mains-voltage switch
6275379	Wire bundle for amplifier
7210129	Socket/housing 8/7-contact
7500114	Contact pin
8410008	60 Hz kit Beocord 1500/1900 type 2642/43

MECHANICAL FUNCTION AND ADJUSTMENT

The sketches below show the mechanical functions of the tape mechanism. Only activate mechanical parts are accentuated.

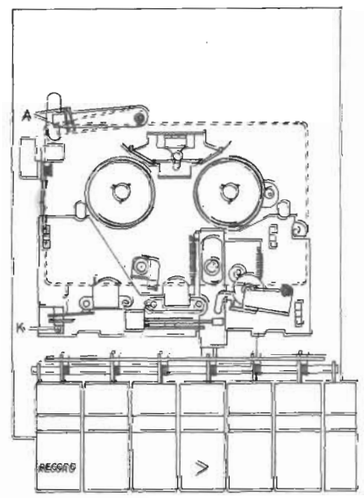
Play

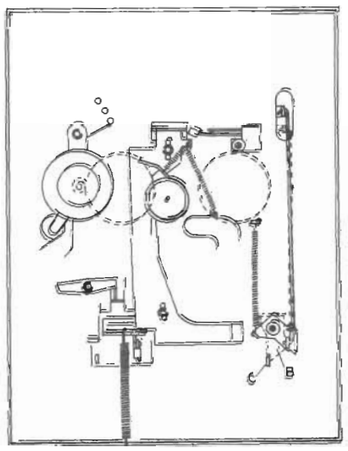




When the Play button is in its depressed and locked position there should be contact between A, B and C; and spring D should be tight. Also, plate I should go all the way forwards against stop blocks H.
When the right-hand reel is stopped, clutch F should slide in the friktion between felt and Delrin (Delrin is a Plastic). If it does not, tighten spring G or replace clutch F.
The switch J must be OFF, but take care that the swithc J is ON in position stop and fast tape motion. This may be adjusted by the screw K.
The screw L is adjusted until the release lever M is easily released by depressing the cassette holder, with a cassette in it.

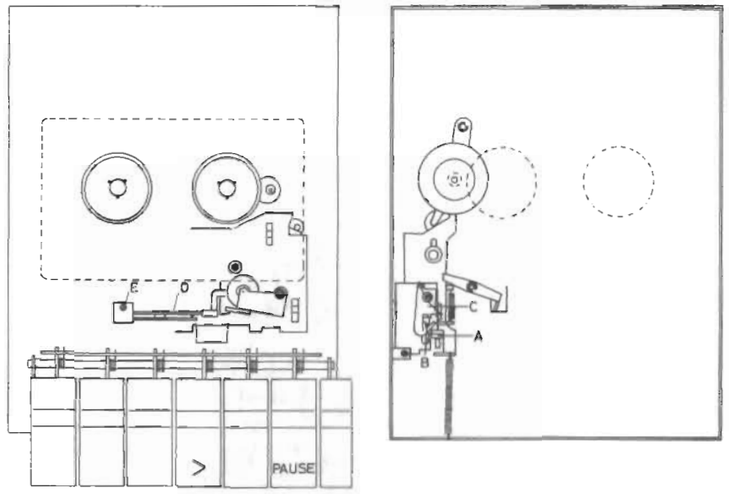
Record





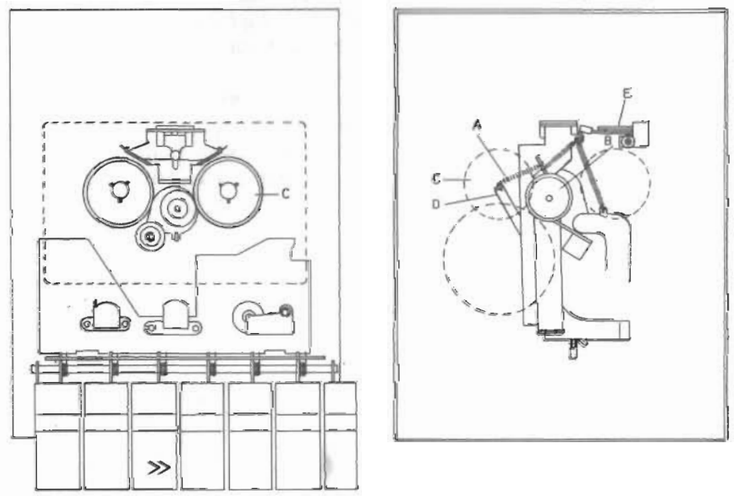
Arm A should be adjusted (bent) so that angle B provides positive locking of arm C (Record button) when a cassette is inserted with the record lock window open and so that arm B is positively disengaged from arm C when the cassette record lock window is closed.

Pause



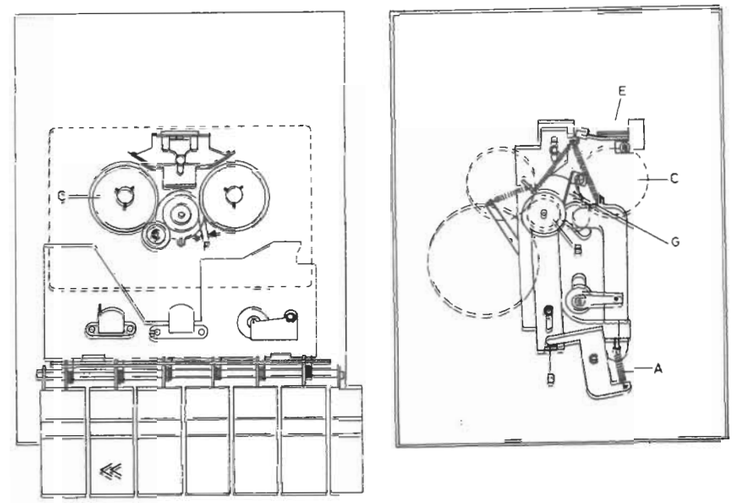
Tag A should be bent so that the thrust roller is pulled positively clear of the capstan shaft and so that pin B is positively gripped by locking mechanism C when the pause button is depressed.
Switch D should be ON. This can be adjusted by lossening screw E and turning switch D.

Fast forward



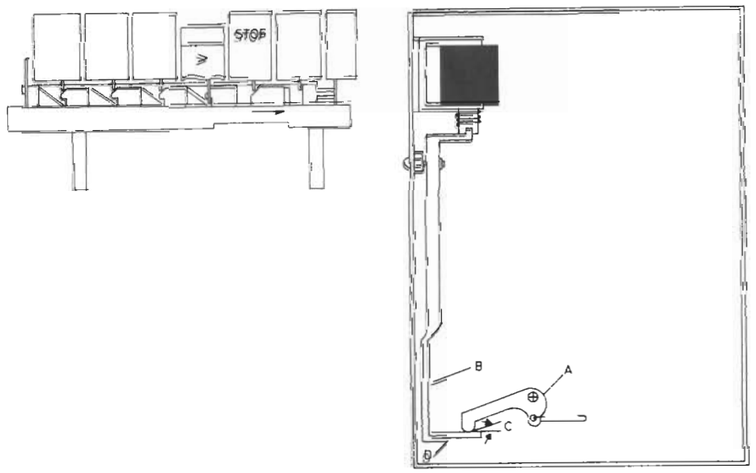
Spring A should be only just tight enough so that the transmission slips in the cluth below idler wheel B when reel C is held fast. Adjustment is carried out by bending D. (Spring A must not be tight during Rewind). It may be necessary to replace or adjust idler wheel and clutch B.
Switch E should be ON.

Rewind



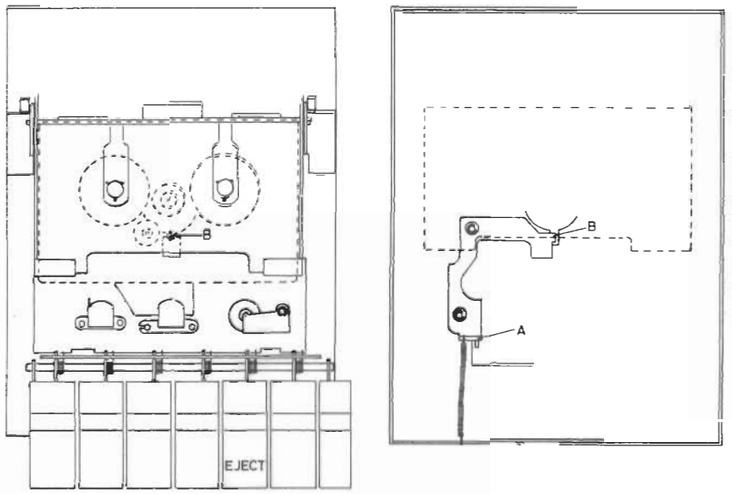
With the unit set at Stop, adjust leaf spring G so that spacing F ≦ 0.4 mm.
Spring A should be only just tight enough so that the transmission slips in the clutch below idler wheel B when reel C is held fast. It may be necessary to adjust or replace clutch B. Switch E should be ON.

Stop/automatic stop



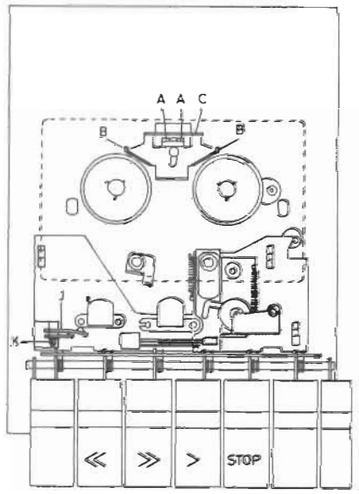
The arm B should be bent at point D so that spacing C between A and B is zero with the unit in the Stop and Play positions.

Eject



Eject should be adjusted so that notch B locks the cassette holder when the latter is pressed down and so that it releases positively when the Eject button is depressed (with all other buttons released).
Adjustment is performed by bending the angle A.

Brakes



Brakes B should disengage positively and simultaneously from the reels when one of the fast tape movements or Play are operated. The brakes are adjusted by bending tags A. In addition, adjustment should be so that clearance exists between A and brake disc C with the unit set at Stop.

Lubrication

The need for lubrication is negligible, but the directions given below should be followed during overhauls and when replacing major mechanical components.

Capstan shaft bearing (top) 2 × Sliding surface against pulley	3984211 Oil, Castrol (small amount)
Idler wheel 12193: Face sliding against shaft 12104 Angle 12268: Face sliding against arm 12264, arm 12269 and arm 12273 Angle 12194: Face sliding against arm 12140 Angle 12251: Face sliding against chassis and washers on two guide pins Shafts for turntables	3984216 Molykote (pasta G, small amount)
Ball 12121: Surface of contact with 12119 and 12129 Tape head bridge 12125: Surface of contact with 12129 (4 rollers) Roller 12129: Surface of contact between chassis and 12125 Arm 12123: Face sliding against chassis 12125	3984217 Gear grease, Bosch (small amount)
Capstan bearing (bottom)	Keep clean

ELECTRICAL ADJUSTMENTS

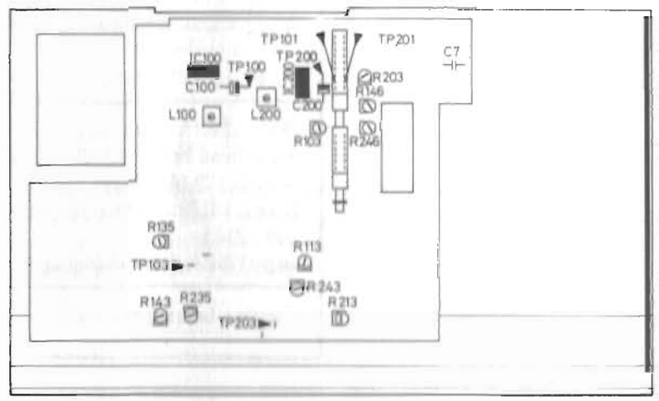
Non-bracketed references apply to left channel.

Azimuth

Demagnetise tape head and erase head.
Connect AF voltmeter to AMP output.
Insert azimuth tape 6780036.

Adjust screw A for max. in both channels and identical output for left and right channeles (mean value) 1TP100 (1TP200).
Lock screw A with glue.

19 kHz filter



Connect tone generator to 1TP101 (1TP201).
Set generator to deliver 19 kHz, 30 mV as measured with AF voltmeter af AMP input.
Set 1R103 (1R203) to mid-scale.
Connect AF voltmeter to 1TP100 (1TP200).
Adjust 1L100 (1L200) for min. reading on AF voltmeter.

Playback level

Insert »Pegel« tape (333 Hz) 6780035.
Adjust 1R103 (1R203) for 720 mV as measured with AF voltmeter at 1TP100 (1TP200).

Playback frequency response

Activate CrO_2.
Insert playback frequency tape 6780056 (time constants 70 µsec. and 3180 µsec.).
Adjust 1R113 (1R213) such that the level at 15 kHz (BE1900) 12,5 kHz (BE1500) is not more than 1.5 dB below the level at 250 kHz as measured with AF voltmeter at 1TP100 (1TP200).

VU meter and recording amplifier

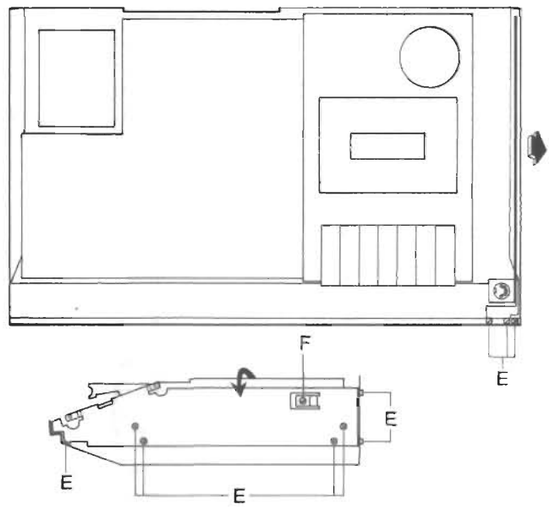
Stop erase generator (short out IC7).
Set tone generator to deliver 333 Hz 30 mV as measured with AF voltmeter at AMP input.
Connect Af voltmeter to 1TP100 (1TP200).
With the recorder in the RECORD mode, adjust the recording potentiometer such that the voltage at 1TP100 are exactly 580 mV. Adjust the balance control so, that the voltage in 1TP200 are exactly 580 mV. Adjust 1R143 (1R243) for 0 dB reading on VU meter.
Back off tone generator 26 dB.
Read and note down voltage at 1TP103 (1TP203).
Set tone generator to deliver 15 kHz (BE1900) 12,5 kHz (BE1500).
Adjust 1R135 (1R235) until level at 1TP103 (1TP203) at 15 kHz (BE1900 12,5 kHz (BE1500) is up 18 dB relative to the level at 333 kHz.
Remove shorting strap from across 1C7.

Bias

Set tone generator to deliver 333 Hz, 30 mV as measured with AF voltmeter at AMP input.
Connect AF voltmeter to 1TP100 (1TP200).
Insert CrO_2 standard tape 6780040.
Place tape recorder in RECORD mode with CrO_2 button depressed.
Adjust recording potentiometer to VU 0.
Back off tone generator 26 dB.
Record and play back 333 Hz and 15 kHz (BE1900) 12,5 kHz (BE1500).
Adjust 1R46 (1R246) until level at 15 kHz (BE1900) 12,5 kHz (BE1500 is 2.5 dB below the level at 333 Hz.

SERVICE TIPS
Preamplifier

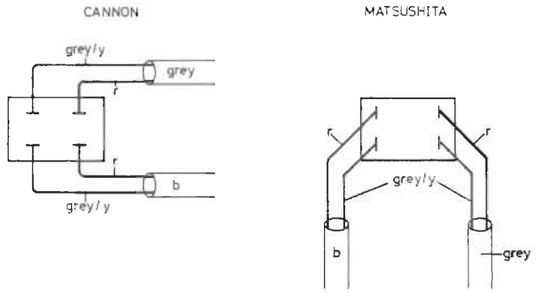
When repairs in the microphone preamplifier PC2 are required, the easiest procedure is to take off PC2 and the right-hand sidepiece together (the tape transport mechanism should be clamped into place in the interests of equipment stability).



Take off the screws marked E; PC2 and the sidepiece can be tilted out.
Take off the screw F. The etched side of PC2 will now be accessible.

Tape heads

Tape heads of different makes and with different pin connections will be used in production.
Lead colours are indicated in the sketch below.



Wow frequencies

Wow frequencies	Source of Failure
0,3 Hz, 0,6 Hz	Left and right reel
1,2 Hz	Thrust and right reel
1,8 Hz, 3,6 Hz	Take-up clutch
3,9 Hz	Clutch belt (12243)
4,3 Hz	Drive belt
6 Hz	Flywheel
10 Hz	Take-up clutch
15 Hz	Idler wheel for clutch (12206)
25 Hz	Motor

Modification

In current production the balance control 2R209/2R109 has been changed into 33 kohms variable (code No. 5300104) and 18 kohms (code No. 5010135, respectively, to obtain a greater range of regulation.